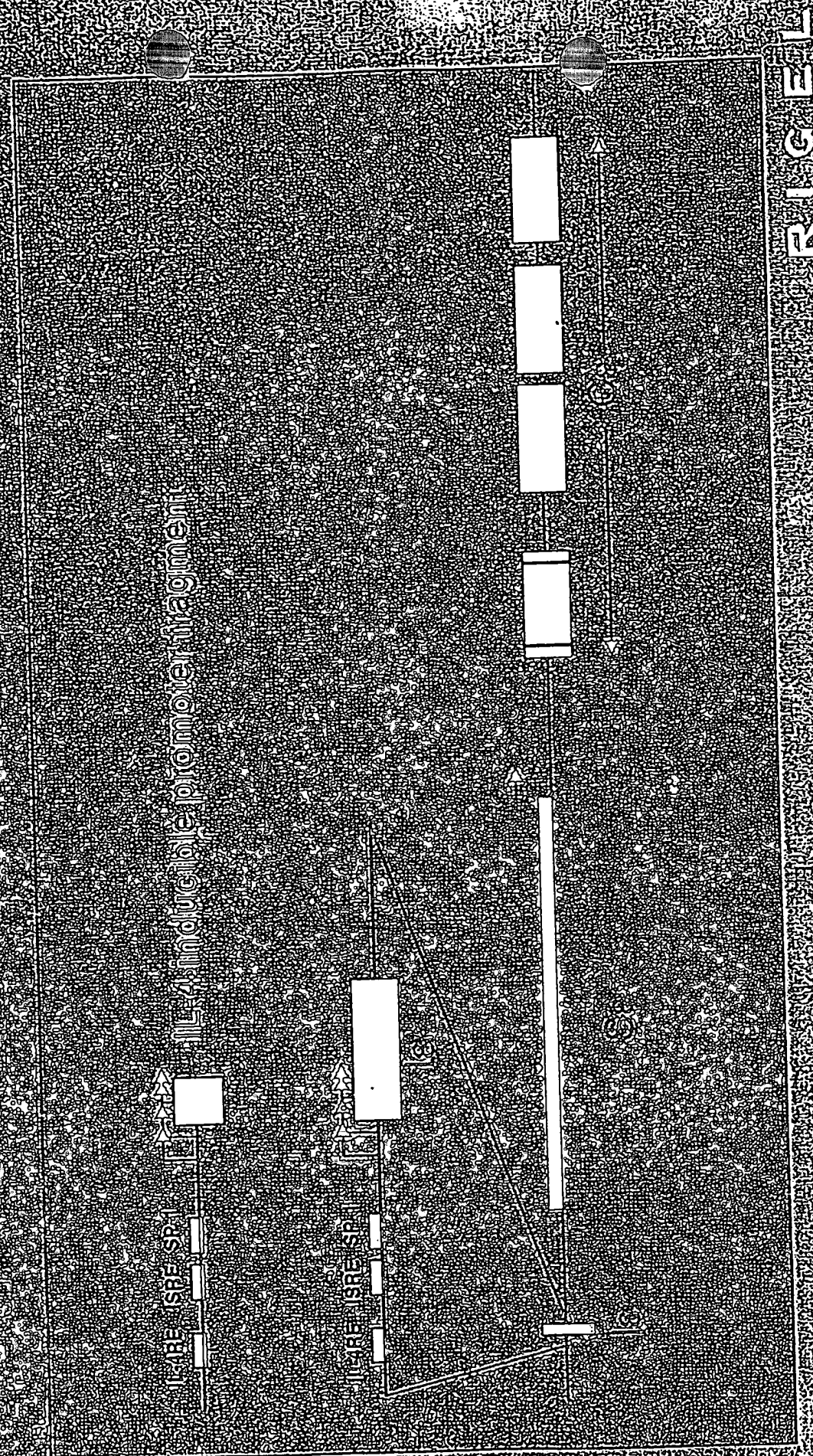


FIGURE 1A

CTCGAGGACAGTGACCTGGGAGTGAGTACAAGGTGAGGCCACCACTCAGGGT
GCCAGCTCCAAGCGGGTCACAGGGACGAGGGGCTGCGGCCATCAGGAGGCCCT
GCACACACATCTGGGACACGCGCCCCCGAGGGCCAGTTCACCTCAGTGCGCCT
CATTCTCCTGCACAAAAGCGCCCCCATCCTTTCTTCACAAGGCTTTCGTGGAAG
CAGAGGCGTCGATGCCCAGTACCCTCTCCCTTTCCCAGGCAACGGGACCCCAA
GTTTGCTGACTGGGACCACCAAGCCACGCATGCGTCAAGAGTGAGAGTCCGG
GACCTAGGCAGGGGGCCCTGGGGTTGGGCCTGAGAGAGAAGAGAACCTCCCCC
AGCACTCGGTGTGCATCGGTAGTGAAGGAGCCTCACCTGACCCCGCTGTTGC
TCAATCGACTTCCCAAGAACAGAGAGAAAAGGGAACCTCCAGGGCGGCCCCG
GCCTCCTGGGGGTTCCCAACCCCATTTTTAGCTGAAAGCACTGAGGCAGAGCTC
CCCCTACCCAGGCTCCACTGCCCAGCACAGAAATAACAACCACGGTTACTGAT
CATCTGGGAGCTGTCCAGGAATTC

0995975-092701

GermLine Locus



RIGEL

FIGURE 1B

Low energy DNA folding of the S ϵ region

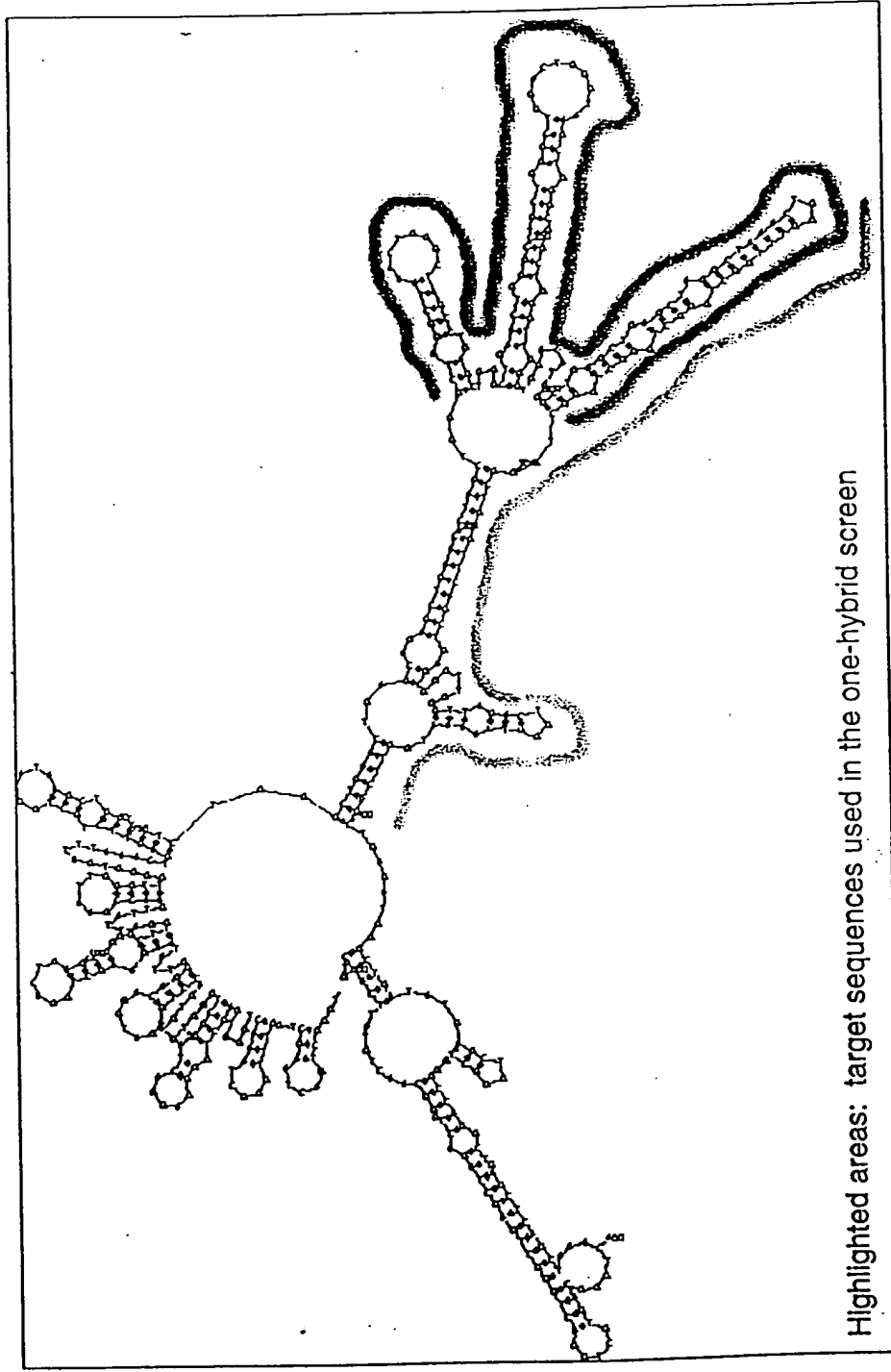


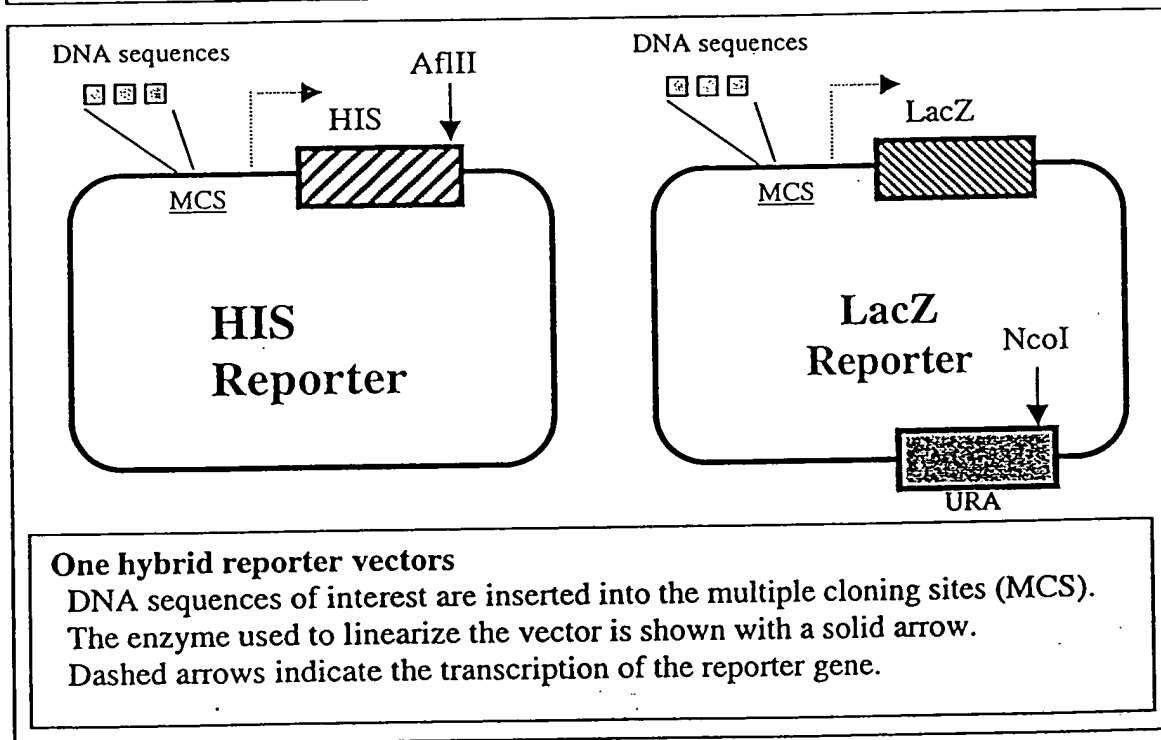
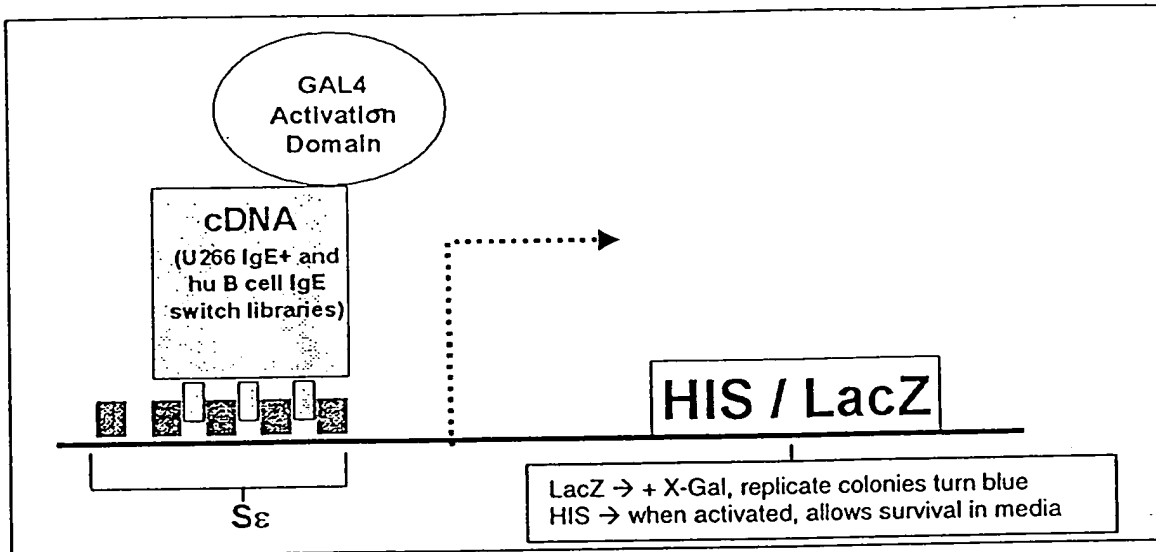
FIG 2A

Questions and answers about the new law.

1 GGT TTG GCTG GGCTGGGCTG GGCTGGGCTG GGTCAGCTG AGCGGGTTGG
51 GTTAGACTGG GTCAA ACTGG TTCAGC

FIG 3

Appendix F Yeast One-Hybrid Screening



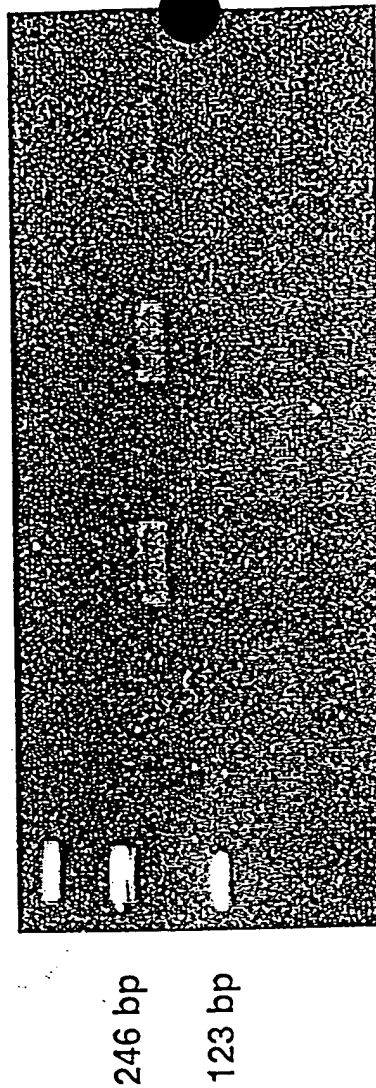
09065976:092704

FIG 4

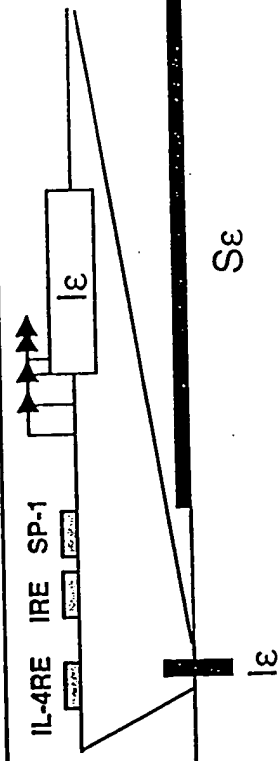
IL-4 Induction of Germline ϵ mRNA in the IgM+ B cell lines: CA-46, MC-116 and DND39

Cells were incubated for 48 hrs in 300 U/ml of h-IL-4. RT-PCR was performed using primers specific for the germline ϵ exon and the 5'-end of the ϵ CH1 exon (predicted size ~ 200 bp).

DND39 + IL-4
DND39 - IL-4
MC-116 + IL-4
MC-116 - IL-4
CA-46 + IL-4
CA-46 - IL-4
Neg cont.

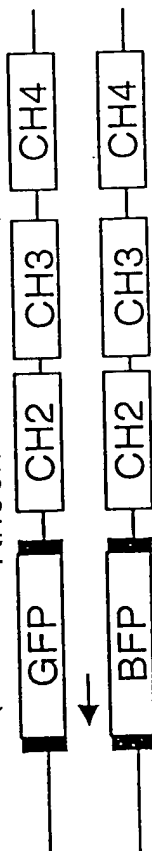


Approaches to generate germline ϵ promoter knock-in reporter cell lines



IL-4 inducible IgM+ B cell lines are transfected. Under the influence of IL-4, GFP and/or BFP positive clones are isolated by FACS. Homologous recombination can be confirmed by PCR and/or Southern blot hybridization.

Knock-in constructs



IL-4 Inducible IgM+ B cell lines are transfected and selected with G418. Survivors are sorted for the lack of 3' BFP expression (deleted during homologous recombination). RT-PCR is performed to confirm homologous recombination. Those clones are transfected with *cre* to remove the neomycin resistance gene.

IL-4 RE, IL-4 responsive element
IRE, interferon responsive element
SP-1, SP-1 binding site
Iε, non-translated exon
Sε, switch region of ϵ
GFP, green fluorescent protein
BFP, blue fluorescent protein
CH1,2,3,4, constant region domain exons

Constitutive Promoter

SV40 promoter

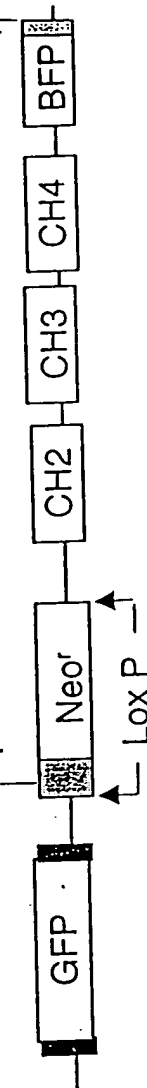
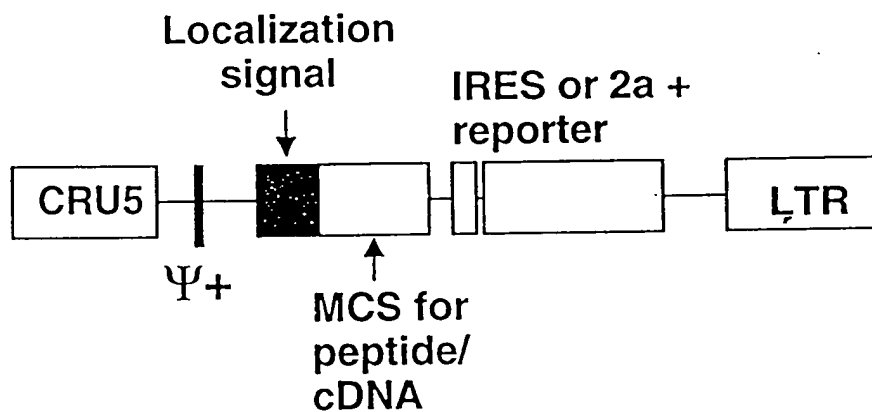


FIG 6

Appendix I

Rigel Base Vector



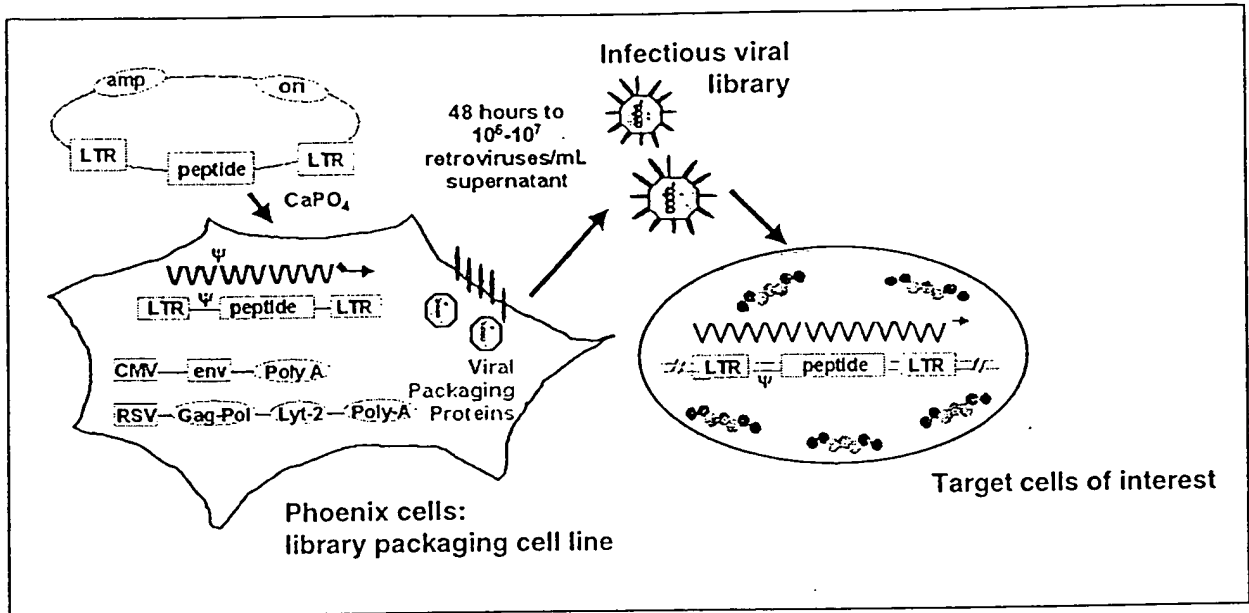
All components are cassetted for flexibility

CRU5, modified LTR
 LTR, long terminal repeat
 Ψ+, packaging signal
 Localization signal: nuclear, cell membrane, granular
 MCS, multiple cloning site
 IRES, internal ribosome entry site
 2a, self-cleaving peptide

FIG 7

Appendix H

Protocol for Transfection of Phoenix Cells and Infection of Nonadherent Target Cells

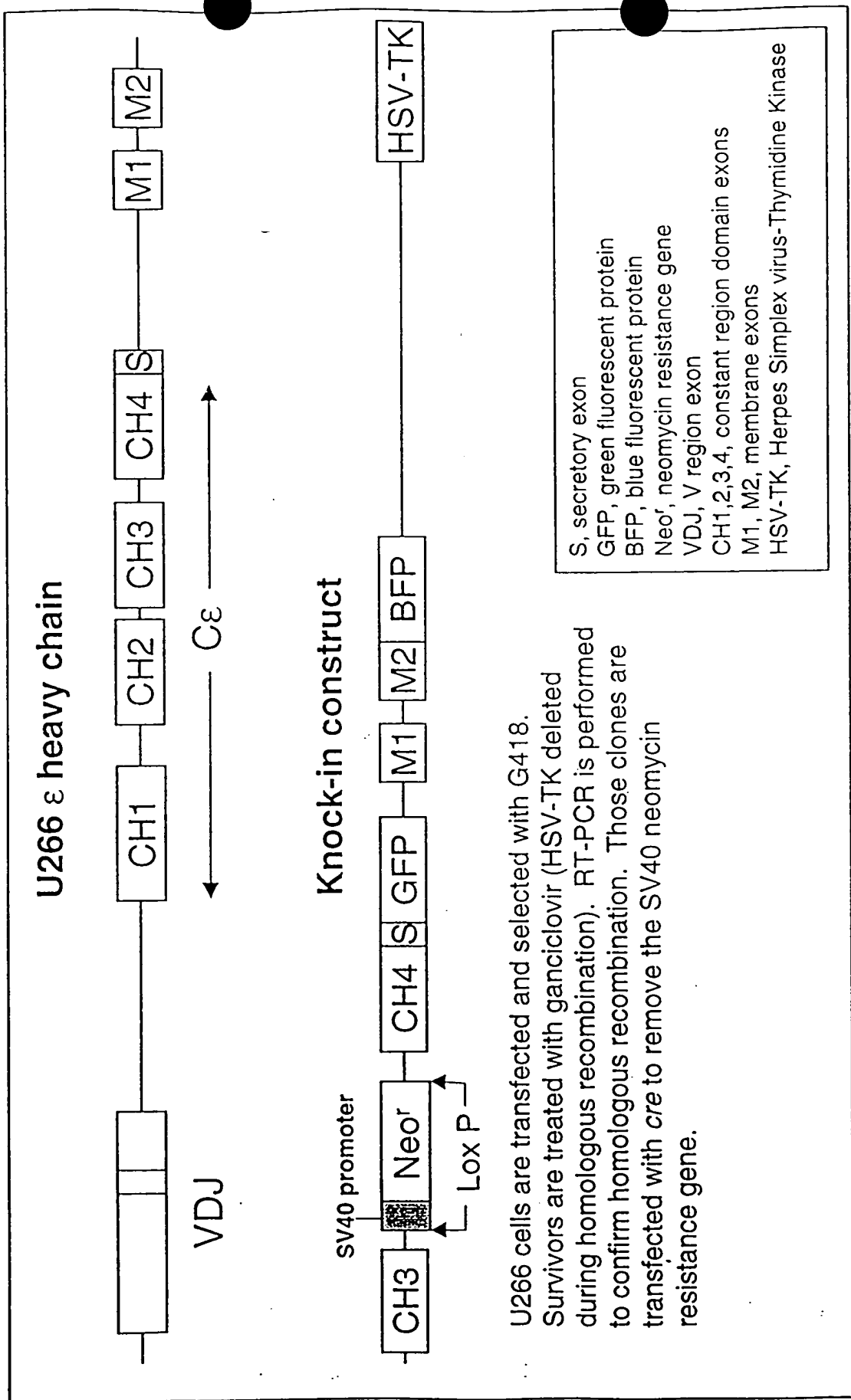


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FIG 8

U266 ε heavy chain

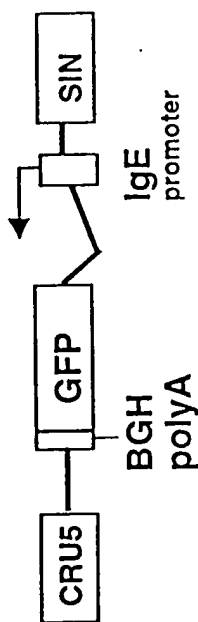
ε heavy chain GFP/BFP knock-in cell line



102250-925659

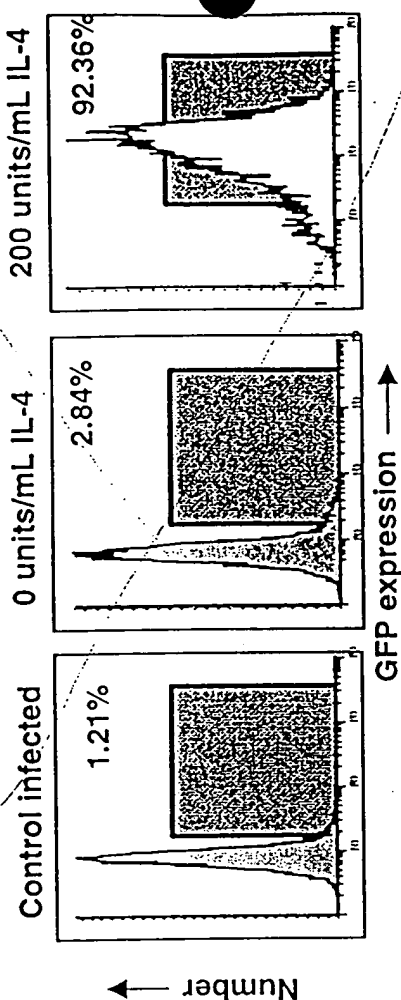
IL-4 Inducible ϵ Promoter Reporter Cell Line

Reporter construct



CRU5, hCMV promoter plus R and U5 regions of LTR
 GFP, green fluorescent protein
 BGH poly A, bovine growth hormone poly-adenylation signal
 SIN, self-inactivating LTR

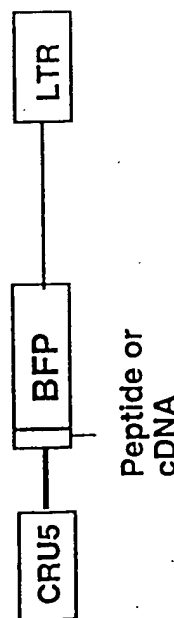
IL-4 induced reporter



Number →

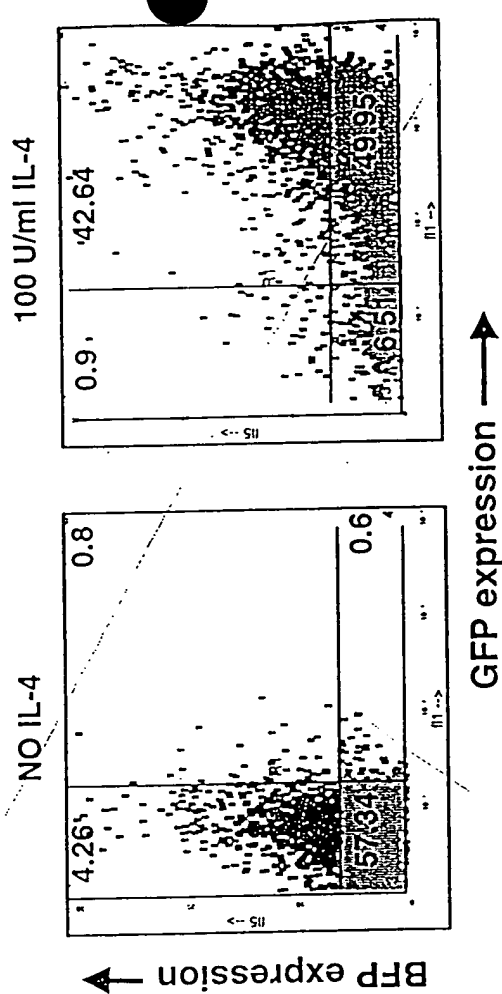
Reporter Line Infected with BFP Construct

Library construct



BFP, blue fluorescent protein

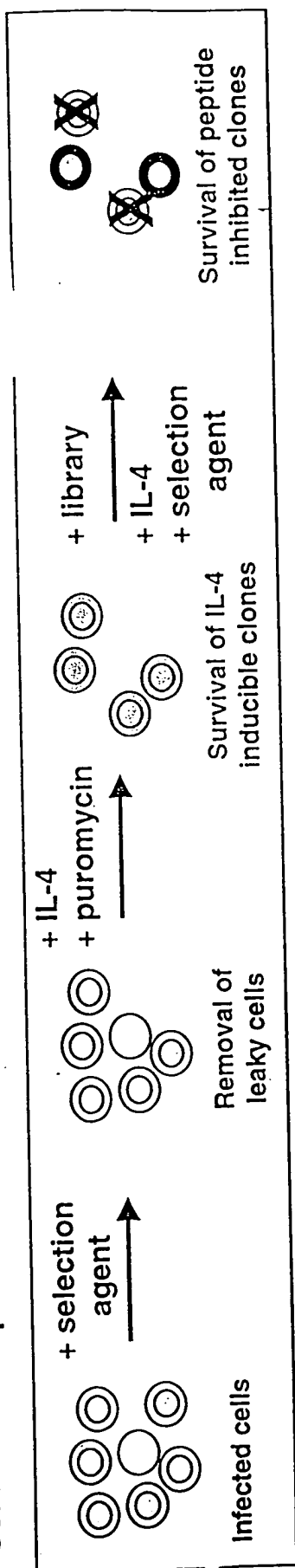
FACS profile of cells with both reporter and peptide library



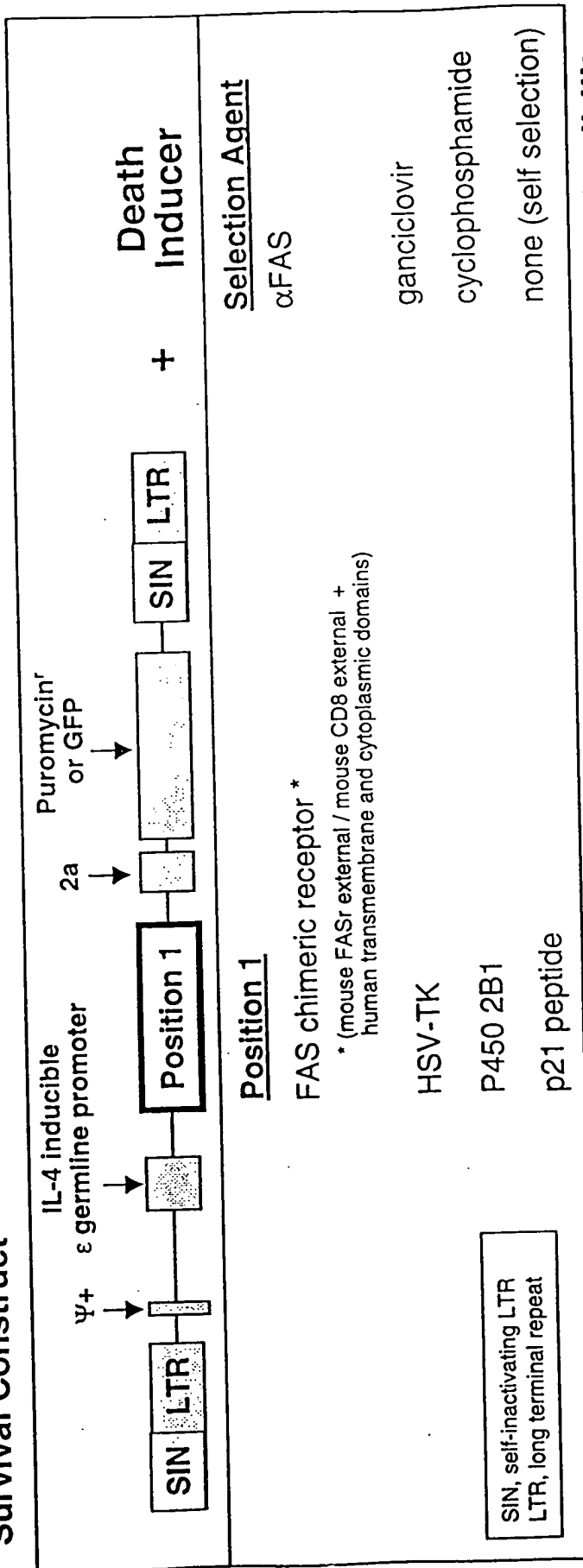
BFP expression →

Appendix C

Screen for Peptide Inhibitors of the Germline ϵ Promoter



Survival Construct



All components are cassetted for flexibility

Appendix D

FIGURE 11A-1

1-845 CMV promoter/R/U5 5' LTR
 1322 GAG ATG-ATC mutation
 850-2100 extended ψ region
 2146-2173 two Bstx1 peptide cloning sites
 2205-2723 ECMV IRES (cloned as EcoR1/MscI fragment from
 pCITE-4a [Novagen])
 2746-3465 GFP coding region
 3522-4115 3' LTR
 4122-6210 pGEM backbone (pUC origin, ampR)

ATCACGAGGCCCTTTTCGTCTTCAAGAACAGCTTTGCTCTTAGGAGTTTCCTAATACATCC
 CAAACTCAAATATATAAAGCATTTGACTTGTCTATGCCCTAGTTATTAATAGTAATCAA
 TTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCGCGGTTACATAACTTACGGTAA
 ATGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATTTGACGTCAATAATGACGTATG
 TTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGT
 AAAGTGGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCCCTATTGACG
 TCAATGACGGTAAATGGCCCGCCTGGCATTATGCCAGTACATGACCTTATGGGACTTTC
 CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTTGGC
 AGTACATCAATGGGCGTGGATAGCGGTTTGACTCACGGGGATTTCGAAGTCTCCACCCCA
 TTGACGTCAATGGGAGTTTGTGTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTGCGTA
 ACAACTCCGCCCCATTGACGCAAAATGGGCGGTAGGCATGTACGGTGGGAGGTCTATATAA
 GCAGAGCTCAATAAAAGAGCCCAACCCCTCACTCGGGGCGCCAGTCCCTCCGATTGACT
 GAGTCGCCCCGGGTACCCGTGTATCCAATAAACCCCTCTTGCAAGTTGCATCCGACTTGTGGT
 CTCGCTGTTCCCTGGGAGGGTCTCCTCTGAGTGATTGACTACCCGTCAGCGGGGGTCTTT
 CATTTGGGGGCTCGTCCGGGATCGGGAGACCCCTGCCCAGGGACCACCGACCCACCACCG
 GGAGGTAAGCTGGCCAGCAACTTATCTGTGTCTGTCCGATTGTCTAGTGTCTATGACTGA
 TTTTATGCGCCTGCGTCCGTACTAGTTAGCTAACTAGCTCTGTATCTGGCGGACCCGTGG
 TGGAACTGACGAGTTCGGAACACCCGGCCGCAACCCTGGGAGACGTCCCAGGGACTTCGG
 GGGCCGTTTTTGTGGCCCGACCTGAGTCCAAAATCCCGATCGTTTTTGGACTCTTTGGTG
 CACCCCCCTTAGAGGAGGGATATGTGGTTCTGGTAGGAGACGAGAACCTAAAACAGTTCC
 CGCCTCCGTCTGAATTTTTGCTTTTCGGTTTGGGACCGAAGCCGCGCCGCGCTCTGTCT
 GCTGCAGCATCGTTCTGTGTGTCTCTGTCTGACTGTGTTTCTGTATTTGTCTGAAAATA
 TCGGCCCCGGGCCAGACTGTTACCACTCCCTTAAGTTTGACCTTAGGTCACCTGGAAGATG
 TCGAGCGGATCGCTCACAACCAGTCGGTAGATGTCAAGAAGAGACGTTGGGTTACCTTCT
 GCTCTGCAGAAATGGCCAACCTTTAACGTCGGATGGCCGCGAGACGGCACCTTTAACCGAG
 ACCTCATCACCCAGGTAAAGATCAAGGTCTTTTACCTGGCCCGCATGGACACCCAGACC
 AGGTCCCCTACATCGTGACCTGGGAAGCCTTGGCTTTTGACCCCCCTCCCTGGGTCAAGC
 CCTTTGTACACCCTAAGCCTCCGCCTCCTCTTCCCTCCATCCGCCCCGTCTCTCCCCCTTG
 AACCTCCTCGTTCGACCCCGCCTCGATCCTCCCTTTATCCAGCCCTCACTCCTTCTCTAG
 GCGCCCCCATATGGCCATATGAGATCTTATATGGGGCACCCCCGCCCCCTTGTAAGCTTCC
 CTGACCCTGACATGACAAGAGTTACTAACAGCCCCCTCTCTCCAAGCTCACTTACAGGCTC
 TCTACTTAGTCCAGCACGAAGTCTGGAGACCTCTGGCGGCAGCCTACCAAGAACAAGTGG
 ACCGACCGGTGGTACCTCACCTTACCGAGTCGGCGACACAGTGTGGGTCCGCCGACACC
 AGACTAAGAACCTAGAACCTCGCTGGAAAGGACCTTACACAGTCCTGCTGACCACCCCA
 CCGCCCTCAAAGTAGACGGCATCGCGCTTGGATACACGCCGCCACGTGAAGGCTGCCGA
 CCGCGGGGTGGACCATCCTCTAGACTGCCGGATCTCGAGGGATCCACCACCATGGACCC
 CCATTAAATTGGAATTCCTGCAGCCCGGGGGATCCACTAGTTCTAGAGCGAATTAATTCC

0905076:002704

W

GGTTATTTTCCACCATATTGCCGCTCTTTTGGAATGTGAGGGCCCGAAACCTGGCCCTG
TCTTCTTGACGAGCATTCCCTAGGGGTCTTTCCCCTCTCGCCAAAGGAATGCAAGGTCTGT
TGAATGTCGTGAAGGAAGCAGTTCCCTCTGGAAGCTTCTTGAAGACAAACAACGTCTGTAG
CGACCCTTTGACGGCAGCGGAACCCCCACCTGGCGCAGAGGTGCCTCTGCGGCCAAAAGC
CACGTGTATAAGATACACCTGCAAAGGCGGCACAACCCAGTGCCACGTTGTGAGTTGGA
TAGTTGTGGAAGAGTCAAATGGCTCTCCTCAAGCGTATTCAACAAGGGGCTGAAGGATG
CCCAGAAGGTACCCCATTTGTATGGGATCTGATCTGGGGCCTCGGTGCACATGCTTTACAT
GTGTTTAGTCTGAGGTTAAAAAAGTCTAGGCCCCCGAACCACGGGGACGTGGTTTTCTCT
TTGAAAAACACGATGATAATATGGGGGATCCACCGGTGCGCACCATGGTGAGCAAGGGCG
AGGAGCTGTTACCGGGGTGGTGCCCATCCTGGTTCGAGCTGGACGGCGACGTAAACGGCC
ACAAGTTTCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCCTGA
AGTTCATCTGCACCACCGGCAAGCTGCCCCGTGCCCTGGCGAGCTGGACGGCGACGTAAACGGCC
CCTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAGCAGACTTCTTCA
AGTCCGCCATGCCCGAAGGCTACGTCCAGGAGCGACCATCTTCTTCAAGGACGACGGCA
ACTACAAGACCCGCGCCGAGGTGAAGTTTCGAGGGCGACACCCTGGTGAACCGCATCGAGC
TGAAGGGCATCGACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAAC
ACAACAGCCACAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAAC
TCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGA
ACACCCCATCGGCGACGGCCCCGTGCTGCTGCCCGACAACCCTACCTGAGCACCCAGT
CCGCCCTGAGCAAAGACCCCAACGAGAAGCGGATCACATGGTCCCTGCTGGAGTTCGTGA
CCGCCGCCGGGATCACTCTCGGCATGGACGAGCTGTACAAGTAAAGCGGCCGCTCGACGA
TAAAATAAAAGATTTTATTTAGTCTCCAGAAAAAGGGGGGAATGAAAGACCCACCTGTA
GGTTTGGCAAGCTAGCTTAAGTAACGCCATTTTGAAGGCATGGAAAAATACATAACTGA
GAATAGAGAAGTTCAGATCAAGGTACGGAACAGATGGAACAGCTGAATATGGGCCAAACA
GGATATCTGTGGTAAGCAGTTTCTGCCCCGGCTCAGGGCCAAGAACAGATGGAACAGCTG
AATATGGGCCAAACAGGATATCTGTGGTAAGCAGTTTCTGCCCCGGCTCAGGGCCAAGAA
CAGATGGTCCCCAGATGCGGTCCAGCCCTCAGCAGTTTCTAGAGAACCATCAGATGTTTC
CAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACATAACCAATCAGTTCG
CTTCTCGCTTCTGTTTCGCGCTCTCTGCTCCCCGAGCTCAATAAAAGAGCCACAACCCC
TCACTCGGGGCGCCAGTCCCTCCGATTGACTGAGTCGCCCCGGGTACCCGTGTATCCAATAA
ACCCTCTTGCAAGTTGCATCCGACTTGTGGTCTCGCTGTTTCTTGGGAGGGTCTCCTCTGA
GTGATTGACTACCCGCTCAGCGGGGGTCTTTTCAATTTCCGACTTGTGGTCTCGCTGCCTTGG
GAGGGTCTCCTCTGAGTGATTGACTACCCGTCAGCGGGGGTCTTACATGCAGCATGTAT
CAAAATTAATTTGGTTTTTTTTTCTTAAGTATTTACATTAAATGGCCATAGTTGCATTAAT
GAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCGTATTGGCGCTCTTCCGCTTCTCTCGCT
CACTGACTCGCTGCGCTCGGTGCTTGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGC
GGTAATACGCTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAGG
CCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCG
CCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGG
ACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGAC
CCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCA
TAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCCGCTCAAGCTGGGCTGTGT
GCACGAACCCCCCGTTTACGCCCCGACCGCTGCGCCTTATCCGGTAACATATCGTCTTGAGTC
CAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAG
AGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACAC
TAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGT
TGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTTTTTTTTTGTGTGCAA
GCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGG
GTCTGACGCTCAGTGGAACGAAACTCACGTTAAGGGATTTTGGTTCATGAGATTATCAA
AAGGATCTTACCTAGATCCTTTTTAAATTAATAAAGTGTGCGCAAATCAATCTAAAG
TATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTC
AGCGATCTGTCTATTTTCGTTTATCCATAGTTGCCTGACTCCCCGTGCTGTAGATAACTAC
GATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACCGCGAGACCCACGCTC
ACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGG

FIGURE 11A-3

TCCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAG
TAGTTCGCCAGTTAATAGTTTTCGCAACGTTGTTGCCATTGCTACAGGCATCGTGTTGTC
ACGCTCGTCGTTTGGTATGGCTTCATTACAGCTCCGGTTCCCAACGATCAAGGCGAGTTAC
ATGATCCCCCATGTTGTGCAAAAAGCGGTTAGCTCCTTCGGTCCCTCCGATCGTTGTCTAG
AAGTAAGTTGGCCGAGTGTTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTAC
TGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTG
AGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCCGGCGTCAACACGGGATAATACCGC
GCCACATAGCAGAACTTTAAAAGTGCTCATCATTTGGAAAACGTTCTTCGGGGCGAAACT
CTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTG
ATCTTCAGCATCTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAA
TGCCGCAAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTT
TCAATATTATTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATG
TATTTAGAAAAATAACAAATAGGGGTTCGCGCACATTTTC

FIGURE 11B-1

1-845 CMVpormoter/R/U5 5' LTR
1322 GAG ATG-ATC mutation
850-2100 extended \square region
2151-2865 GFP coding region
2866-2894 GGGSGGG linker
2895-2952 FMDV 2a cleavage sequence
2953-3004 Bstx1/Bstx1/Hind3/Hpa1/Sal1/Not1 polylinker
3052-3645 3' LTR
3652-5715 pGEM backbone (pUC origin, ampR)

ATCACGAGGCCCTTTCGTCTTCAAGAACAGCTTTGCTCTTAGGAGTTTQCTAATACATC
CCAAACTCAAATATATAAAGCATTTGACTTGTTCTATGCCCTAGTTATTAATAGTAATC
AATTACGGGGTCATTAGTTCATAGCCCATATATGGAGTTCCGCGTTACATAACTTACGG
TAAATGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATTGACGTCAATAATGACG
TATGTTCCCATAGTAACGCCAATAGGGACTTTCATTGACGTCAATGGGTGGAGTATTT
ACGGTAAACTGCCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCCCTA
TTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATGACCTTATGG
GACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCG
GTTTTGGCAGTACATCAATGGGCGTGATAGCGGTTTGACTCACGGGGATTTCCAAGTC
TCCACCCCATTGACGTCAATGGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTCCA
AAATGTCGTAACAACCTCCGCCCCATTGACGCAAATGGGCGGTAGGCATGTACGGTGGGA
GGTCTATATAAGCAGAGCTCAATAAAAGAGCCACAAACCCCTCACTCGGGGCGCCAGTC
CTCCGATTGACTGAGTCGCCCCGGGTACCCGTGTATCCAATAAACCCCTCTTGCAAGTTGCA
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CAGCGGGGGTCTTTCATTTGGGGGCTCGTCCGGGATCGGGAGACCCCTGCCCAGGGACC
ACCGACCCACCACCGGGAGGTAAGCTGGCCAGCAACTTATCTGTGTCTGTCCGATTGTC
TAGTGTCTATGACTGATTTTATGCGCCTGCGTCGGTACTAGTTAGCTAAGTCTGTGT
ATCTGGCGGACCCGTGGTGGAAGTACGAGTTCGGAACACCCGGCCGCAACCCCTGGGAG

FIGURE 11B-2

ACGTCCTCCAGGGACTTTCGGGGGCGCGTTTGTGTCGCCCCGACCTGAGTCCAAAAATCCCGAT
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CGAGAACCTAAAACAGTTCCCGCCTCCGTCTGAATTTTTGCTTTCGGTTTGGGACCGAA
GCCGCGCCGCGCGTCTTGTCTGCTGCAGCATCGTTCTGTGTTGTCTCTGTCTGACTGTG
TTTCTGTATTTGTCTGAAAATATCGGGCCCGGGCCAGACTGTTACCACTCCCTTAAGTTT
GACCTTAGGTCACTGGAAGATGTGAGCGGATCGCTACAACCAGTCGGTAGATGTCA
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CCGCGAGACGGCACCTTTAACCGAGACCTCATCACCCAGGTAAAGATCAAGGTCTTTTC
ACCTGGCCCGCATGGACACCCAGACCAGGTCCCCTACATCGTGACCTGGGAAGCCTTGG
CTTTTGACCCCCCTCCCTGGGTCAAGCCCTTTGTACACCCTAAGCCTCCGCCTCCTCTT
CCTCCATCCGCCCCGTCTCTCCCCCTTGAACCTCCTCGTTCGACCCCGCCTCGATCCTC
CCTTTATCCAGCCCTCACTCCTTCTCTAGGCGCCCCCATATGGCCATATGAGATCTTAT
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GAGTCGGCGACACAGTGTGGGTCCGCGGACACCCAGACTAAGAACCTAGAACCTCGCTGG
AAAGGACCTTACACAGTCCTGCTGACCACCCCCACCGCCCTCAAAGTAGACGGCATCGC
AGCTTGGATACACGCCGCCACGTGAAGGCTGCCGACCCCGGGGGTGGACCATCCTCTA
GACTGCCGGATCTCGAGGGATCCACCATGGTGAGCAAGGGCGAGGAGCTGTTACCGGG
GTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTC
CGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCA
CCGGCAAGCTGCCCGTGCCCTGGCCCCACCTCGTGACCACCTGACCTACGGCGTGCGAG
TGCTTCAGCCGCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCC
CGAAGGCTACGTCCAGGAGCGACCATCTTCTTCAAGGACGACGGCAACTACAAGACCC
GCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATC
GACTTCAAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACACTACAACAGCCA
CAACGTCTATATCATGGCCGACAAGCAGAAGAACGGCATCAAGGTGAACCTCAAGATCC
GCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCC
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GAGCAAAGACCCCCAACGAGAAGCGCGATCACATGGTCTTGCTGGAGTTCGTGACCGCCG
CCGGGATCACTCTCGGCATGGACGAGCTGTACAAGGAATTCGGAGGTGGCAGCGGTGGC
GGTCAGCTGTTGAATTTTGACCTTCTTAAACTTGCGGGAGACGTGAGTCCAACCCTGG
GCCACCACCACCATGGAAGCTTCCATTAAATTGGTTAACGTGACGCGGCCGCTCGAC
GATAAAATAAAAGATTTTATTTAGTCTCCAGAAAAAGGGGGGAATGAAAGACCCACCT
GTAGGTTTGGCAAGCTAGCTTAAGTAACGCCATTTTGCAAGGCATGGAATAACATAA
CTGAGAATAGAGAAGTTCAGATCAAGGTCAGGAACAGATGGAACAGCTGAATATGGGCC
AAACAGGATATCTGTGGTAAGCAGTTCCCTGCCCCGGCTCAGGGCCAAGAACAGATGGAA
CAGCTGAATATGGGCCAAACAGGATATCTGTGGTAAGCAGTTCCCTGCCCCGGCTCAGGG
CCAAGAACAGATGGTCCCCAGATGCGGTCCAGCCCTCAGCAGTTTCTAGAGAACCATCA
GATGTTTCCAGGGTGCCCCAAGGACCTGAAATGACCTGTGCCTTATTTGAACTAACCA
ATCAGTTCGCTTCTCGCTTCTGTTTCGCGCGCTTCTGCTCCCCGAGCTCAATAAAAGAGC
CCACAACCCCTCACTCGGGGCGCCAGTCTCCGATTGACTGAGTCGCCCCGGGTACCCGT
GTATCCAATAAACCTCTTGAGTTGCATCCGACTTGTGGTCTCGCTGTTCTTGGGAG
GGTCTCCTCTGAGTGATTGACTACCCGTGACGCGGGGTCTTTCATTTCCGACTTGTGGT
CTCGCTGCCTTGGGAGGGTCTCCTCTGAGTGATTGACTACCCGTGACGCGGGGTCTTCA
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CATAGTTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCGTATTGGCGCT

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CTTCCGCTTCCTCGCTCACTGACTCGCTGCGCTCGGTTCGGCTGCGGCGAGCGGTA
TCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAA
GAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGG
CGTTTTTCCATAGGCTCCGCCCCCCTGACGAGCATCACAAAATCGACGCTCAAGTCAG
AGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCT
CGTGCGCTCTCCTGTTCCGACCCTGCCGTTACCGGATACCTGTCCGCCTTTCTCCCTT
CGGGAAGCGTGGCGCTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTC
GTTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTTCAGCCCGACCGCTGCGCCTT
ATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAG
CAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTG
AAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCT
GAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCG
CTGGTAGCGGTGGTTTTTTTTGTTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCT
CAAGAAGATCCTTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGAACGAAAACCTCACG
TTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTAAATT
AAAAATGAAGTTTGCGCAAATCAATCTAAAGTATATATGAGTAAACTTGGTCTGACAGT
TACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCAT
AGTTGCCTGACTCCCCGTGCTGTAGATAACTACGATACGGGAGGGCTTACCATCTGGCC
CCAGTGCTGCAATGATACCGCGAGACCCACGCTCACCGGCTCCAGATTTATCAGCAATA
AACCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCCTGCAACTTTATCCGCCTCCAT
CCAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTTCGCCAGTTAATAGTTTGC
GCAACGTTGTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCGTTTGGTATGGCT
TCATTTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAA
AAAAGCGGTTAGCTCCTTTCGGTCCTCCGATCGTTGTGACAAGTAAGTTGGCCGCAGTGT
TATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTCATGCCATCCGTAAGA
TGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCTGAGAATAGTGTATGCGGCG
ACCGAGTTGCTCTTGCCCGGCGTCAACACGGGATAATACCGCGCCACATAGCAGAACTT
TAAAAGTGCTCATCATTGGAACCGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCG
CTGTTGAGATCCAGTTCGATGTAACCCACTCGTGACCCCAACTGATCTTCAGCATCTTT
TACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAAGG
GAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTTTCAATATTATTGA
AGCATTTTATCAGGGTTATTGTCTCATGACATTAAACCTATAAAAAATAGGCGT

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ATCACGAGGCCCTTTGCTCTTCAAGAACAAGCTTTGCTCTTAGGAGTTTCCATAACATCCCAAACTCAAAT
ATATAAAGCATTGTACTTGTCTTATGCCCTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAG
CCATATATGGAGTTTCCGCGTTACATAAAGTACGGTAAATGGCCCGCTGGCTGACCGCCCAACGACCCCGG
CCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGG
TGGAGTATTTACGGTAAAGTGGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTACGCCCCCTATT
GACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCCAGTACATGACCTTATGGGACTTTCCCTACTTG
GCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTTGGCAGTACATCAATGGGCGTG
GATAGCGGTTTTGACTCACGGGGATTTCGAAGTCTCCACCCCATGACGTCAATGGGAGTTTGTTTTGGCAC
CAAAATCAACGGGACTTTCCAAAATGTGCTAACAACCTCCGCCCCATTGACGCAAAATGGGCGGTAGGCATGT
ACGGTGGGAGGTCTATATAAGCAGAGCTCAATAAAAGAGCCCAACCCCTCACTCGGGGCGCCAGTCCCTC
CGATTGACTGAGTCGCGCGGGTACCCGTGTATCCAATAAAACCCCTCTTGACAGTTGCATCCGACTTGTGGTCT
CGCTGTTCCCTTGGGAGGGTCTCCTCTGAGTGATTGACTACCCGTCAGCGGGGGTCTTTCATTTGGGGGCTC
GTCCGGGATCGGGAGACCCCTGCCAGGGACCACCGACCCACCACGGGAGGTAAGCTGGCCAGCAACTTA
TCTGTGCTGTGCCGATTGTCTAGTGTCTATGACTGATTTTATGCGCCTGCGTCGGTACTAGTTAGCTAACT
AGCTCTGTATCTGGCGGACCCGTGGTGGAAGTACGAGTTTCGGAACACCCGGCCGCAACCCCTGGGAGACGT
CCCAGGGACTTCGGGGGGCGTTTTTGTGGCCCGACCTGAGTCCAAAAATCCCGATCGTTTTGGAGACTCTTTG
GTGCACCCCCCTTAGAGGAGGGATATGTGGTTCTGGTAGGAGACGAGAACCTAAACAGTTTCCCGCCTCCG
TCTGAATTTTGGCTTTTCGGTTTTGGGACCGAAGCCGCGCGCGCTTGTCTGCTGCAGCATCGTTCTGTG
TTGCTCTGTCTGACTGTGTTTTCTGTATTTGTCTGAAAAATATCGGCCCGGGCCAGACTGTTACCCTCCCT
TAAGTTTACCTTAGCTTAGTCTACTGGAAGATGTGCGAGCGGATCGCTCACAACCAGTCGGTAGATGTCAAGAAG
AGACGTTGGGTTACCTTCTGCTCTGCAGAATGGCCAACTTTAACGTCGGATGGCCGCGAGACGGCACCTT
TAACCGAGACCTCATCACCCAGGTAAAGATCAAGGTCTTTTCACCTGGCCCGCATGGACACCCAGACCAGG
TCCCTTACATCGTGACCTGGGAAGCCTTGGCTTTTGACCCCTTCCCTGGGTCAAGCCCTTTGTACACCT
AAGCCTCCGCTCCTCTTCTCCATCCGCCCCGTCTCTCCCCCTTGAACCTCCTCGTTTCGACCCCGCCTCG
ATCCTCCCTTTATCCAGCCCTCACTCCTTCTCTAGGCGCCCCCATATGGCCATATGAGATCTTATATGGGG
CACCCCGCCCTTGTAAACTTCCCTGACCTGACATGACAAGAGTTACTAACAGCCCTCTCTCCAAGCT
CACTTACAGGCTCTCTACTTAGTCCAGCACGAAGTCTGGAGACCTCTGGCGGCAGCCTACCAAGAACAACT
GGACCGACCGGTGGTACCTCACCTTACCGAGTCGGCGACACAGTGTGGGTCCGCCGACACCAGACTAAGA
ACCTAGAACCTCGCTGGAAAGGACCTTACACAGTCCTGCTGACCACCCCAACCGCCCTCAAAGTAGACGGC
ATCGCAGCTTGGATACACGCCGCCACGTGAAGGCTGCCGACCCCGGGGTGGACCATCCTCTAGACTGCC
GGATCTCGAGGGATCCACCACCATGGACCCCATTAATTTGGAATTCGGGGCCCAAGCTTTGTTAACGTG
ACGCGGCCCGCGCTCGACGATAAAATAAAAGATTTTATTTAGTCTCCAGAAAAAGGGGGAATGAAAGACCC
CACCTGTAGGTTTGGCAAGCTAGCTTAAGTAACGCCATTTTGCAAGGCATGGAAAAACAGGATATCTGTGGTA
TAGAGAAGTTAGATCAAGGTACAGGAACAGATGGAACAGCTGAATATGGGCAAAACAGGATATCTGTGGTA
AGCAGTTCTTCCCGCGCTCAGGGCCAAGAACAGATGGAACAGCTGAATATGGGCAAAACAGGATATCTGTGGTA
GGTAAGCAGTTCTTCCCGCGCTCAGGGCCAAGAACAGATGGTCCCCAGATGCGGTCCAGCCCTCAGCAGT
TTCTAGAGAACCATCAGATGTTTTCCAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACTA
ACCAATCAGTTTCGCTTCTCGCTTCTGTTCGCGCGCTTCTGTCTCCCGGAGCTCAATAAAAGAGCCCAACCC
CCTCACTCGGGGCGCCAGTCTCCGATTGACTGAGTCGCGCGGGTACCCGTGTATCCAATAAAACCCCTCTTG

FIGURE 11C-2

CAGTTGCATCCGACTTGTGGTCTCGCTGTTCCCTGGGAGGGTCTCCTCTGAGTGATTGACTACCCGTCAGC
 GGGGGTCTTTTCATTTCCGACTTGTGGTCTCGCTGCCTTGGGAGGGTCTCCTCTGAGTGATTGACTACCCGT
 CAGCGGGGTCTTCACATGCAGCATGTATCAAAATTAATTTGGTTTTTTTTCTTAAGTATTTACATTAAAT
 GGCCATAGTTGCATTAATGAATCGGCCAACGCGCGGGGAGAGGCGGTTTGCCTATTGGCGCTCTTCCGCTT
 CCTCGCTCACTGACTCGCTGCGCTCGGTGCTTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTA
 ATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAG
 GAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATC
 GACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCC
 CTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTCTCCCTTCGGGAAGCGT
 GGGCGTTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTG
 TGCACGAACCCCCGTTTCAGCCCCAGCGCTGCGCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGCTA
 AGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGC
 TACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGC
 TGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTTGATCCGGCAAAACAAACCACCGCTGGTAGCGGT
 GGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTC
 TACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGA
 TCTTCACCTAGATCCTTTTAAATTAAAAATGAAGTTTGCGCAATCAATCTAAAGTATATAGATAAACT
 TGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCAT
 AGTTGCCTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAA
 TGATACCGCGAGACCCACGCTCACCGGCTCCAGATTTATCAGCAATAAACCAGCCAGCCGGAAGGGCCGAG
 CGCAGAAGTGGTCCTGCAACTTTATCCGCTCCATCCAGTCTATTAATTGTTGCGGGAAGCTAGAGTAAG
 TAGTTGCCAGTTAATAGTTTGCAGAACGTTGTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGT
 TTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAAA
 AAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTCAGAAGTAAGTTGGCCGCGAGTGTATCACTCATGGT
 TATGGCAGCACTGCATAATTCTCTTACTGTGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAAGTACT
 CAACCAAGTCATTCTGAGAATAGTGATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAACACGGGATAAT
 ACCGCGCCACATAGCAGAACTTTAAAAGTGCTCATCATTGGAAAACGTTCTTCGGGGCGAAAACTCTCAAG
 GATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACCTGATCTTCAGCATCTTTTA
 CTTTCACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCGACA
 CGGAAATGTTGAATACTCATACTCTTCTTTTCAATATTATTGAAGCATTTATCAGGGTTATTGTCTCAT
 GACATTAACCTATAAAAAATAGGCGT

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FIG 12A

(1) C12ScFas Survival construct

C12ScFas: epsilon-cFas(CD95)-Ires-Hygro-BGH PolyA put into C12s vector backwards so that no leaky transcription happens through the cmv promoter.

atcacgaggccctttcgtcttcaagaacagctttgctcttaggagtttctaatacatccaaactcaaatatataaagc
atttgacttgttctatgccctagttatataagtaatacaattacggggtcattagttcatagcccatataggagttccg
cgttacataacttacggtaaatggcccgctgggtgacgcccacgacccccgcccattgacgtcaaatgacgtatg
ttcccatagtaacgccaataggagctttccattgacgtcaaatgggtggagtatttacggtaaaactgcccacttggcagta
catcaagtgtatcatatgccaaagtacgccccctattgacgtcaaatgacgttaaatggcccgctggcattatgcccagta
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acgggtgggaggtctatataagcagagctcaataaaagagcccaacccccctactcggggcgccagctcctcagattgact
gagtcgcccgggtaccggtgtatccaataaacctcttgcagttgcatccgacttgtggtctcgtgttctctgggaggg
tctcctctgagtgattgactaccgctcagcgggggtcttctattgggggtcgtccgggagtcgggagaccctgcccag
ggaccaccgacccaccacgggaggttaagctggccagcaacttatctgtgtctgtccgattgtctagtgtctatgactga
ttttatgcgctgcgtcgggtactagtttagctaactagctctgtatctggtcggaacccgtgtgtgaaactgacgagttcgaa
caccggcgccgaactgggagacgtcccgagggttccggggcgttttggggccgacgtgagtcacaaaatcccgga
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cgcctcgtctgaatttttgccttctggtttgggaccgaagcgcgcgcgcgtcttctgtctgctgcagcatcgttctgtgt
tgtctctgtctgactgtgttctgtatttgtctgaaaaataggccgggcccagactgttaccactcctcagattgac
cttaggtcactggaagagtgtcgagcggatcgtcacacacagctcggtagatgtcaagaagagacgttgggttaccttct
gctctgcagaatggccaaactttaacgtcggatggcgcgagacggcacctttaaccgagacctcatcaccaggttaag
atcaaggtcttttccactggccgcagtgacacccagaccaggtccctacatcgtgacctgggaagccttggcttttga
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aacctcctgctgacccccgcctcgtatcccttaccagcctcactcctctcttagggccccccatagggccatat
gagatcttatatggggacccccgccttggtaacttccctgacctgacatgacaagagttactaacagccccctctct
ccaagctcacttacagggtctctacttagtccagcagcaagctctggagacctctggggcgagcctaccaagaacaactgg
accgaccgggtgggtacctcacccttaccgagtcggcgacacagtggtgggtccgcccagacaccagactaagaacctgaacact
cgctggaaggaccttacacagtcctgtgacccccccacgcctcaaatgtagacggcatcgcagcttggatacacgc
cgcccagctgaaggctgccgacccccgggggtggaccatcctctagactgccGGATCTCGAGGGATCTCCACAGCATGCC

TGCTATTGTCTTCCCAATCCTCCCCCTTGCTGTCTGCCCCACCCACCCCAAGAATAGAATGACACCTACTCAGACAA

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GCAAACAACAGATGGCTGGCAACTAGAAGGCACAGTCGAGGCTAGCTTGCCAAACCTACAGGTGGGGTCTTTTATTCC

CCCTTTTCTGGAGACTAAATAAAATCTTTTATTTatcgaatagatcccggtcggcatctactctattcctttgccctcg
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gcgatttgtgtacgcccagcagtcgccggtccggatcggagcattgctgcacatcgacctgcgccaaagctgcacatc
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gccgatgcaaaagtcgagataaacataacgacttctgtgaacacatcggcgagctatttaccgcaggacatatccacg
ccctcctacatcgaagctgaaagcagagattccttgcctccgagagctgcacaggtcggagacgtgtcgaactttt
cgatcagaaacttctcgacagacgtcgcggtgagttcaggcttttcatgggtattatcatcgtgttttcaaaggaaac
cacgtccccgtgggtcggggggcctagacgtttttaaactcgactaaacacatgtaagcatgtgcacgagggccccag
atcagatcccatacaatgggtaccttctgggcatccttcagcccccttgttgaatacgttggaggagagccatttgactc
ttccacaactatccaactcacaacgtggcactgggggtgtgtgcgccttgcagggtgtatcttatacagctggcttttgg
ccgagaggcactgtcgcaggtgggggggtccgctgcctgcaagggtcgctacagacgttgtttgtcttcaagaagc
ttCCAGAGGAAGTCTCTTCTCACGACATTCAACAGACCTTGCTTCTTGGCGAGAGGGGAAAGACCctagactaga

ccaagcttttgattttcatttctgaagtttgaattttctgagtcactagtaattgtccttgaggatgatagttcgaattttc
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ccaattacgaagcagttgaactttctgttctgtgtgtcttggacattgtcattcttgcattctcatttttggcttcat
tgacaccattcttgcgaacaaagcctttaacttgcgttagttgtcagctccagcaatagtggtgatataatttactcaag
tcaacatcagataaaatttattgccactgtttcaggatttaaggttggagattcatgagaaccttgggttttcttctgtg
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ccaaccggTTTCTGGGACTTTGTTTCTTCTGCAGTTTGTATTGCTGGTGTGCTGTCATGGCTCAAGGGTTCCATTGTTCACAC

GAGGCGCAGCGAACACAGTGTTCACAGCCAGGAGAATCGCAGTAGAAGTCTGGTTTGCATTGCACTTGGTATTCTGGGT

CAGGGTGCAGTTTGTCTTCACTTCTAAACCATGCTCTTCATCGCAGAGTGTGCATCTTCTGCATTATCAGCATAATGGT

TCTGTCCATGTACTCTTCCCTTCTGTGCATGGGGCACAGGTGGTGTACCCCCATTCAATTTGCAGTCTCTCAACTTTT

0095695 : 002701

0264263

0264263

FIG 12C

ACTGCATAATTCTCTTACTGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGagtactcaaccaagtcattctgag

aatagtgtatgcgggcgaccgagttgctcttgcccggcggtcaacacgggataataccgcgccacatagcagaactttaaaa
gtgctcatcattggaaaacgttcttcggggcgaaaactctcaaggatcttaccgctggtgagatccagttcgatgtaacc
cactcgtgcacccaactgatcttcagcatcttttactttcaccagcgtttctgggtgagcaaaaacaggaaggcaaaatg
ccgcaaaaaagggaataagggcgacacggaaatggtgaatactcatactcttcctttttcaatattattgaagcatttat
cagggttattgtctcatgacattaacctataaaaaataggcgt

00066976:002701

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2.) Ahhhh: epsilon-cFas' (CD8 or mLyt2)-Ires-Hygro-BGHpolyA also in C12s backwards

atcacgaggccctttcgctctcaagaacagcttttgctcttaggagtttgctaatacatcccaaacctcaapatataaagc
atttgacttggttctatgccctagttattaatagtaatcaattacggggtcattagttcatgcccataatatggaggtccg
cggttacataacttacggtaaatggcgcccgctggctgacgccccaacgacccccgcccatatgacgctcaataatgacgtatg
ttcccatagtaaacgcgaatagggaatttccattgacgtcaaatgggtggagattattacgttaaacctggccacttggcagta
catcaagtgtatcatatgccaagtacgccccctatttgacgtcaattgacggtaaatggccccgctggcattatgcccagt
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[illegible]

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Figure 6

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